

**North Dakota State Water Commission
Policy Meeting**

**State Office Building
Lower Level Conference Room
Bismarck, North Dakota**

**September 21, 2016
2:00 P.M.**

AGENDA

- A. Flood Control Cost Share Percentage
 - a. City of Minot
 - b. Cities of Lisbon and Valley City
 - c. City of Grafton
- B. Breakout Corridor Easements
- C. Ring Dike Program – Limit Per Project
- D. Adjournment

NORTH DAKOTA STATE WATER COMMISSION

COST-SHARE POLICY, PROCEDURE, AND GENERAL REQUIREMENTS

The State Water Commission has adopted this policy to support local sponsors in development of sustainable water related projects in North Dakota. This policy reflects the State Water Commission's cost-share priorities and provides basic requirements for all projects considered for prioritization during the agency's budgeting process. Projects and studies that receive cost-share funding from the agency's appropriated funds are consistent with the public interest. The State Water Commission values and relies on local sponsors and their participation to assure on-the-ground support for projects and prudent expenditure of funding for evaluations and project construction. It is the policy of the State Water Commission that only the items described in this document will be eligible for cost-share upon approval by the State Water Commission, unless specifically authorized by State Water Commission action.

I. DEFINITIONS AND ELIGIBILITY

- A. CONSTRUCTION COSTS** include earthwork, concrete, mobilization and demobilization, dewatering, materials, seeding, rip-rap, crop damages, re-routing electrical transmission lines, moving storm and sanitary sewer system and other underground utilities and conveyance systems affected by construction, mitigation required by law related to the construction contract, irrigation supply works, and other items and services provided by the contractor. Construction costs are only eligible for cost-share if incurred after State Water Commission approval and if the local sponsor has complied with North Dakota Century Code (N.D.C.C.) in soliciting and awarding bids and contracts, and complied with all applicable federal, state, and local laws.
- B. COST-SHARE** is grant or loan funds provided through the State Water Commission.
- C. ENGINEERING SERVICES** include pre-construction and construction engineering. Pre-construction engineering is the engineering necessary to develop plans and specifications for permitting and construction of a project including preliminary and final design, material testing, flood insurance studies, hydraulic models, and geotechnical investigations. Construction engineering is the engineering necessary to build the project designed in the pre-construction phase including construction contract management, and project inspection. Administrative and support services not specific to the approved project are not engineering services. Engineering services are eligible costs if incurred after State Water Commission approval. If cost-share is expected to be greater than \$25,000, the local sponsor must follow the engineering selection process in NDCC 54-44.7 and provide a copy of the selection committee report to the Chief Engineer. The local sponsor will be considered to have complied with this requirement if they have completed this

selection process for a general engineering services agreement at least once every three years and have formally assigned work to a firm or firms under an agreement. The local sponsor must inform the Chief Engineer of any change in the provider of general engineering services.

- D. IMPROVEMENTS** are construction related projects that upgrade a facility to provide increased efficiency or capacity. Improvements do not include any activities that are maintenance, replacement, or reconstruction.
- E. INELIGIBLE ITEMS** excluded from cost-share include:
- 1 Administrative and easement costs, including those related to permits;
 - 2 Property acquisitions, property surveys, and legal expenses unless specifically identified as eligible within the Flood Recovery Property Acquisition Program, the Flood Protection Program, or the Water Retention Projects;
 - 3 Work and costs incurred prior to a cost-share approval date, except for emergencies as determined by the Chief Engineer;
 - 4 Project related operation and regular maintenance costs;
 - 5 Funding contributions provided by federal, other state, or other North Dakota state entities that supplant costs;
 - 6 Work incurred outside the scope of the approved study or project.
- F. EXPANSIONS** are construction related projects that increase the project area or users served. Expansions do not include maintenance, replacement, or reconstruction activities.
- G. LOCAL SPONSOR** is the entity submitting a cost-share application and must be a political subdivision, state entity, or commission legislatively granted North Dakota recognition that applies the necessary local share of funding to match State Water Commission cost-share. They provide direction for studies and projects, public point of contact for communication on public benefits and local concerns, and acquire necessary permits and rights-of-way.
- H. REGULAR MAINTENANCE COSTS** include normal repairs and general upkeep of facilities to allow facilities to continue proper operation and function. These maintenance items occur on a regular or annual basis. Regular maintenance activities simply help ensure the asset will remain serviceable throughout its originally predicted useful life.
- I. PROGRAM** is a subcategory of cost-share that is typically associated with a federal initiative and may cover all phases of a study or implementation of a project.
- J. PROJECT** is the water-related construction activity.
- K. EXTRAORDINARY MAINTENANCE COSTS** include the repair or replacement of portions of facilities or components that extends the overall life of the system or

components that are above and beyond regular or normal maintenance. Extraordinary maintenance activities extend the asset's useful life beyond its originally predicted useful life.

- L. SUSTAINABLE OPERATION, MAINTENANCE, AND REPLACEMENT PLAN** is a description of the anticipated operation, maintenance, and replacement costs with a statement that the operation, maintenance, and replacement of the project will be sustainable by the local sponsor. For water supply projects, a summary of the project sponsor's Capital Improvement Fund must also be included.
- M. CAPITAL IMPROVEMENT FUND** is money set aside using a portion of user fees for future asset replacement and a cost share application shall include documentation of the following:
 - 1. Current capital improvement fund balance
 - 2. Existing and new assets
 - 3. Replacement cost of assets
 - 4. Average life of assets
 - 5. Current and future monthly reserve per user

II. COST-SHARE APPLICATION AND APPROVAL PROCEDURES. The State Water Commission will not consider any cost-share applications for water related projects or studies unless the local sponsor first makes an application to the Chief Engineer. No funds will be used in violation of Article X, § 18 of the North Dakota Constitution (Anti-Gift Clause).

- A. APPLICATION REQUIRED.** An application for cost-share is required in all cases and must be submitted by the local sponsor on the State Water Commission Cost-Share Application form. Applications for cost-share are accepted at any time. Applications received less than 30 days before a State Water Commission meeting will not be considered at that meeting and will be held for consideration at a future meeting. The application form is maintained and updated by the Chief Engineer and must include the following:
 - 1 Category of cost-share activity
 - 2 Location of the proposed project or study area
 - 3 Description, purpose, goal, objective, narrative of the proposed activities
 - 4 Delineation of costs
 - 5 Potential federal, other state, or other North Dakota state entity participation
 - 6 Engineering plans, if applicable
 - 7 Status of required permitting
 - 8 Potential territorial service area conflicts or service area agreements, if applicable
 - 9 Sustainable operation, maintenance, and replacement plan for projects
 - 10 Additional information as deemed appropriate by the Chief Engineer

Applications for cost-share are separate and distinct from the State Water Commission biennial project information collection effort that is part of the budgeting process and published as the State Water Plan. All local sponsors are encouraged to submit project and study financial needs for the State Water Plan. Projects and studies not submitted as part of the State Water Plan development process may be held until action can be taken on those that were included during budgeting, unless determined to be an emergency that directly impacts human health and safety or that are a direct result of a natural disaster.

- B. PRE-APPLICATION.** A pre-application process is allowed for cost-share of assessment projects. This process will require the local sponsor to submit a brief narrative of the project, preliminary designs, and a delineation of costs. The Chief Engineer will then review the material presented, make a determination of project eligibility, and estimate the cost-share funding the project may anticipate receiving. A project eligibility letter will then be sent to the local sponsor noting the percent of cost-share assistance that may be expected on eligible items as well as listing those items that are not considered to be eligible costs. In addition, the project eligibility letter will state that the Chief Engineer will recommend approval when all cost-share requirements are addressed. The local sponsor may use the project eligibility letter to develop a project budget for use in the assessment voting process. Upon completion of the assessment vote and all other requirements an application for cost-share can be submitted.
- C. REVIEW.** Upon receiving an application for cost-share, the Chief Engineer will review the application and accompanying information. If the Chief Engineer is satisfied that the proposal meets all requirements, the Chief Engineer will present the application along with a recommendation to the State Water Commission for its action. The Chief Engineer's review of the application will include the following items and any other considerations that the Chief Engineer deems necessary and appropriate.
- 1 Applicable engineering plans;
 - 2 Field inspection, if deemed necessary by the Chief Engineer;
 - 3 The percent and limit of proposed cost-share determined by category of cost-share activity and eligible expenses;
 - 4 Assurance of sustainable operation, maintenance, and replacement of project facilities by the local sponsor;
 - 5 Status of permitting and service area agreements;
 - 6 Available funding in the State Water Commission budget, if in the State Water Plan, and a priority ranking when appropriate.

For cost-share applications over \$100 million, additional information requested by the State Water Commission will be used to determine cost-share.

The Chief Engineer is authorized to approve cost-share up to \$75,000 in state funds and also approve cost overruns up to \$75,000 in state funds without State Water Commission action.

- D. **NOTICE.** The Chief Engineer will give notice to local sponsors when their application for cost-share is placed on the tentative agenda of the State Water Commission's next meeting.
- E. **AGREEMENT AND DISTRIBUTION OF FUNDS.** No funds will be disbursed until the State Water Commission and local sponsor have entered into an agreement for cost-share participation. No agreement for construction funding will be entered into until all required State Engineer permits have been acquired.

For construction projects, the agreement will address indemnification and vicarious liability language. The local sponsor must require that the local sponsor and the state be made an additional insured on the contractor's commercial general liability policy including any excess policies, to the extent applicable. The levels and types of insurance required in any contract must be reviewed and agreed to by the Chief Engineer. The local sponsor may not agree to any provision that indemnifies or limits the liability of a contractor.

For any property acquisition, the agreement will specify that if the property is later sold, the local sponsor is required to reimburse the Commission the percent of sale price equal to the percent of original cost-share.

The Chief Engineer may make partial payment of cost-sharing funds as deemed appropriate. Upon notice by the local sponsor that all work or construction has been completed, the Chief Engineer may conduct a final field inspection. If the Chief Engineer is satisfied that the work has been completed in accordance with the agreement, the final payment will be disbursed to the local sponsor, less any partial payment previously made.

- F. **LITIGATION.** If a project submitted for cost-share is the subject of litigation, the application may be deferred until the litigation is resolved. If a project approved for cost-share becomes the subject of litigation before all funds have been disbursed, the Chief Engineer may withhold funds until the litigation is resolved. Litigation for this policy is defined as legal action that would materially affect the ability of the local sponsor to construct the project; that would delay construction such that the authorized funds could not be spent; or is between political subdivisions related to the project.

III. COST-SHARE CATEGORIES. The State Water Commission supports the following categories of projects and studies for cost-share. Engineering expenses related to construction are cost-shared at the same percent as the construction costs when approved by the State Water Commission.

- A. **PRE-CONSTRUCTION EXPENSES.** The State Water Commission supports local sponsor development of feasibility studies, engineering designs, and mapping as part of pre-construction activities to develop support for projects within this cost-share policy. Pre-construction expenses approved by the State Water Commission are cost-shared up to 35 percent. The following projects and studies are eligible.

- 1 Feasibility studies to identify water related problems, evaluate options to solve or alleviate the problems based on technical and financial feasibility, and provide recommendation and cost estimate, of the best option to pursue.
- 2 Engineering design to develop plans and specifications for permitting and construction of a project, including associated cultural resource and archeological studies.
- 3 Mapping and surveying to gather data for a specific task such as flood insurance studies and flood plain mapping, LiDAR acquisition, and flood imagery attainment, which are valuable to managing water resources.

Copies of the deliverables must be provided to the Chief Engineer upon completion. The Chief Engineer will determine the payment schedule and interim progress report requirements.

B. WATER SUPPLY

- 1 **WATER SUPPLY PROJECT.** The State Water Commission supports water supply efforts and will use a grant and loan program. The local sponsor may apply for water supply funding, and the application will be reviewed to determine project priority. Projects within category (1) may be considered for grant funding up to 75 percent cost-share. Projects in category (2) may be considered for grant funding up to 60 percent of cost-share. Grant funding within category (3) will be on a case-by-case basis. Projects within categories (1) through (4) may be considered for loan funding. After cost-share for grant funding has been determined, the local sponsor may be considered for loan funding in addition to the grant funding. The combination of grant and loan funding will not exceed 80 percent from the State Water Commission.

(1) In most cases a 75% cost-share is intended to address improvements to meet primary drinking water standards or expansion into new rural water service areas. Factors considered include:

- (a) Connection of communities to the regional system as part of this expansion as determined by the Chief Engineer.
- (b) Willingness of water users at far reaches of the system to pay additional costs for water service as an indicator of greater need for access to water and local commitment in the project as determined by the Chief Engineer.
- (c) Affordable and sustainable water rate as determined by the Chief Engineer.

Lower rates of cost-share up to 60% may be made available to address other necessary improvements in rural water systems as defined in I-D.

(2) Supports improvements or connection of new customers within the existing service area of a municipal water system. Population growth and affordability may be used in prioritizing projects in this category.

(3) Water treatment improvements that address impacts from other State Water Commission projects. Grant funding is based on level of impact as determined by the State Water Commission.

(4) Addresses extraordinary repairs or replacement needs of a water supply system due to damages from a recent natural disaster.

Debt per capita, either actual or anticipated, may be used as an additional determinant of financial need.

Water Depots for industrial use receiving water from facilities constructed using State Water Commission funding or loans have the following additional requirements:

- a) Domestic water supply has priority over industrial water supply in times of shortage. This must be explicit in the water service contracts with industrial users.
- b) If water service will be contracted, public notice of availability of water service contracts is required when the depot becomes operational.
- c) A portion of the water supply at any depot must be available on a non-contracted basis for public access.

- 2 **MUNICIPAL, RURAL, AND INDUSTRIAL WATER SUPPLY PROGRAM.** The Municipal, Rural, and Industrial Water Supply Program, which uses federal funds, is administered according to North Dakota Administrative Code Article 89-12.
- 3 **DROUGHT DISASTER LIVESTOCK WATER SUPPLY PROJECT ASSISTANCE PROGRAM.** This program is to provide assistance with water supply for livestock impacted during drought declarations and is administered according to North Dakota Administrative Code Article 89-11.

C. **FLOOD CONTROL.** The State Water Commission may provide cost-share for eligible items of flood control projects protecting communities from flooding and may include the repair of dams that provide a flood control benefit.

- 1 **FLOOD RECOVERY PROPERTY ACQUISITION GRANT PROGRAM.** This program is used to assist local sponsors with flood recovery expenses that provide long term flood damage reduction benefits through purchase and removal of structures in areas where flood damage has occurred. All contracted costs directly associated with the acquisition will be considered eligible for cost-share. Contracted costs may include: appraisals, legal fees (title and abstract search or update, etc.), property survey, closing costs, hazardous materials abatement needs (asbestos, lead paint, etc.), and site restoration.

The State Water Commission may provide cost-share of the eligible costs of approved flood recovery expenses that provide long term flood reduction benefits based on the following criteria and priority order:

- a) Local Sponsor has flood damage and property may be needed for construction of temporary or long-term flood control projects, may be cost-shared up to 75 percent.
- b) Local Sponsor has flood damage and property would increase conveyance or provide other flood control benefits, may be cost-shared up to 60 percent.

Prior to applying for assistance, the local sponsor must adopt and provide to the Chief Engineer an acquisition plan (similar to plans required by Hazard Mitigation Grant Program (HMGP)) that includes the description and map of properties to be acquired, the estimated cost of property acquisition including contract costs, removal of structures, the benefit of acquiring the properties, and information regarding the ineligibility for HMGP funding. Property eligible for HMGP funding is not eligible for this program. The acquisition plan must also include a description of how the local sponsor will insure there is not a duplication of benefits.

Over the long-term development of a flood control project following a voluntary acquisition program, the local sponsor's governing body must officially adopt a flood risk reduction plan or proposal including the flow to be mitigated. The flow used to develop the flood risk reduction plan must be included in zoning discussions to limit new development on other flood-prone property. An excerpt of the meeting minutes documenting the local sponsor's official action must be provided to the Chief Engineer.

Local sponsor must fund the local share for acquisitions; this requirement will not be waived. Federal funds are considered "local" for this program if they are entirely under the authority and control of the local sponsor.

The local sponsor must include a perpetual restrictive covenant similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

The local sponsor must provide justification, acceptable to the Chief Engineer, describing the property's ineligibility to receive federal HMGP funding. This is not meant to require submission and rejection by the federal government, but rather an explanation of why the property would not be eligible for federal funding. Example explanations include: permanent flood control structures may be built on the property; project will not achieve required benefit-cost analysis to support HMGP eligibility; or lack of available HMGP funding. If inability to receive federal funding is not shown to the satisfaction of the Chief Engineer, following consultation with the North Dakota Department of Emergency

Services, the cost-share application will be returned to the local sponsor for submittal for federal funding prior to use of these funds.

- 2 **FLOOD PROTECTION PROGRAM.** This program supports local sponsor efforts to prevent future property damage due to flood events. The State Water Commission may provide cost-share grants for up to 60 percent of eligible costs. For projects with federal participation, the cost-share may be up to 50 percent of eligible costs.

The cost-share application must include the return interval or design flow for which the structure will provide protection. Local share must be provided on a timely basis. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program. The local sponsor must include a perpetual restrictive covenant on any properties purchased under this program similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

- 3 **FEMA LEVEE SYSTEM ACCREDITATION PROGRAM.** The State Water Commission may provide cost-share up to 60 percent for eligible services for FEMA 44 CFR 65.10 flood control or reduction levee system certification analysis. The analysis is required for FEMA to accredit the levee system for flood insurance mapping purposes. Typical eligible costs include site visits and field surveys to include travel expenses, hydraulic evaluations, closure evaluations, geotechnical evaluations, embankment protection, soils investigations, interior drainage evaluations, internal drainage hydrology and hydraulic reports, system modifications, break-out flows and all other engineering services required by FEMA. The analysis will result in a comprehensive report to be submitted to FEMA and the Chief Engineer.

Administrative costs to gather existing information or to recreate required documents, maintenance and operations plans and updates, and emergency warning systems implementation are not eligible.

- 4 **DAM SAFETY AND EMERGENCY ACTION PLANS.** The State Water Commission supports dam safety including repairs and removals, as well as emergency action plans. The State Water Commission may provide cost-share for up to 75 percent of the eligible items for dam safety repair projects and dam breach or removal projects. Dam safety repair projects that are funded with federal or other agency funds may be cost-shared up to 75 percent of the eligible non-matched costs. The intent of these projects is to return the dam to a state of being safe from the condition of failure, damage, error, accidents, harm or other events that are considered non-desirable. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

The State Water Commission may provide cost-share up to 80 percent, for emergency action plans (EAPs) of each dam classified as high or medium significant hazard. The cost of a dam break model is only eligible for reimbursement for dams classified as a high hazard.

- 5 **WATER RETENTION PROJECTS.** The goal of water retention projects is to reduce flood damages by storing floodwater upstream of areas prone to flood damage. The State Water Commission may provide cost-share up to 60 percent of eligible costs for flood retention projects including purchase price of the property. For projects with federal participation, the cost-share may be up to 50 percent. Water retention structures constructed with State Water Commission cost-share must meet state dam safety requirements, including the potential of cascade failure. A hydrologic analysis including the operation plan, quantifying the flood reduction benefits for 25, 50, and 100-year events must be submitted with the cost-share application.
- 6 **SNAGGING AND CLEARING PROJECTS.** Snagging and clearing projects consist of the removal and disposal of fallen trees and associated debris encountered within or along the channel. Snagging and clearing projects are intended to prevent damage to structures such as bridges, and maintain the hydraulic capacity of the channel during flood flows. The State Water Commission may provide cost-share for up to 50 percent of the eligible items for snagging and clearing as well as any sediment that has accumulated in the immediate vicinity of snags and any trees in imminent danger of falling in the channel on watercourses as defined in N.D.C.C. § 61-01-06. Items that are not eligible include snagging and clearing of man-made channels; the dredging of watercourses for sediment removal; the clearing and grubbing of cattails and other plant vegetation; or the removal of any other unwanted materials.

D. RURAL FLOOD CONTROL. The primary purpose of rural flood control projects is to manage runoff or drainage from agricultural sources or to provide flood control in a rural setting. Typically, rural flood control projects consist of drains, channels, diversion ditches, or ring dikes. Items that are not eligible include projects that are managing runoff or drainage from residential or urban sources.

- 1 **DRAINS, CHANNELS, OR DIVERSION PROJECTS.** These projects are intended to improve the drainage and management of runoff from agricultural sources. The State Water Commission may provide cost-share up to 45 percent of the eligible items for the construction of drains, channels, or diversion ditches. Expansions and improvements may be cost-shared on the basis of increased drainage capacity achieved or increased area served. Construction costs for public road crossings that are integral to the project are eligible for cost-share as defined in N.D.C.C. § 61-21-31 and 61-21-32. If an assessment-based rural flood control project involves multiple districts, each district involved must join in the cost-share application.

Cost-share applications for rural assessment drains will only be processed after the assessment vote has passed, the final design is complete, and a drain permit

has been obtained. If the local sponsor wishes to submit a cost-share application prior to completion of the aforementioned steps, a pre-application process will be followed.

- 2 **RING DIKE PROGRAM.** This program is intended to protect individual rural homes and farmsteads through ring dike programs established by water resource districts. All ring dikes within the program are subject to the Commission's Individual Rural and Farmstead Ring Dike Criteria provided in Attachment A. Cost-share is limited to \$40,000 per ring dike. Protection of a city, community or development area does not fall under this program, but may be eligible for the flood control program. The State Water Commission may provide up to 60 percent cost-share of eligible items for ring dikes.

Landowners enrolled in the Natural Resource Conservation Service's (NRCS) Environmental Quality Incentive Program (EQIP) who intend to construct rural or farmstead ring dikes that meet the State Water Commission's elevation design criteria are eligible for a cost-share reimbursement of 20 percent of the NRCS construction payment, limited to a combined NRCS and State Water Commission contribution of 80 percent of project costs.

- E. **RECREATION.** The State Water Commission may provide cost-share up to 40 percent for projects intended to provide water-based recreation. Typical projects provide or complement water-based recreation associated with dams.
- F. **IRRIGATION.** The State Water Commission may provide cost-share for up to 50 percent of the eligible items for irrigation projects. The items eligible for cost-share are those associated with new central supply works, including water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, and electrical transmission and control facilities.
- G. **BANK STABILIZATION.** The State Water Commission may provide cost-share up to 50 percent of eligible items for bank stabilization projects on public lands or those lands under easement by federal, state, or political subdivisions. Bank stabilization projects are intended to stabilize the banks of lakes or watercourses, as defined in N.D.C.C § 61-01-06, with the purpose of protecting public facilities. Drop structures and outlets are not considered for funding as bank stabilization projects, but may be eligible under other cost-share program categories. Bank stabilization projects typically consist of a rock or vegetative design and are intended to prevent damage to public facilities including utilities, roads, or buildings adjacent to a lake or watercourse.

MINIMUM DESIGN CRITERIA

- ## LANDOWNER RESPONSIBILITY

If landowner does the work, payment is based on the following unit prices:

- ## OTHER FACTS AND CRITERIA

- Effective February 9, 2016

Flood Control Cost Share Percentage

City of Minot



1

City Manager's Office

Date: 1 August 2016

To: Maurice Foley, State Water Commissioner

From: Dan Jonasson, Public Works Director
Cindy K. Hemphill, Finance Director
Lee A. Staab, City Manager

Re: City of Minot Contribution's to Regional Efforts

The City of Minot has and continues to fund regional efforts for flood mitigation and for potable drinking water.

Minot is in the heart of the Souris River Basin. The Souris River enters North Dakota from Saskatchewan, Canada and flows through Renville, Ward, McHenry and Bottineau counties before flowing back into Manitoba, Canada.

In 1971, the Corps of Engineers began work on the Corps Minot Channel Improvement Project and that was completed in 1978. It included 15.8 miles of clearing and snagging, 10.6 miles of channel improvements including 14 channel cutoffs, 12 channel control structures, 6 storm water-pumping stations, 6,300 lineal feet of storm water interceptors and 2.7 miles of earth levees. The Federal costs totaled \$21,300,000 and local costs \$3,200,000.

In the late 1980s, a flood control project for the urban and rural reaches of the Souris River in North Dakota was planned and completed. The project consisted of flood control features in Canada and the United States. Features in Canada included flood storage in Alameda and Rafferty reservoirs in Saskatchewan and the existing Boundary Dam. Features in the United States include modification of the gated outlet structure at the existing Lake Darling Dam for flood control; mitigation to the U.S. Fish and Wildlife Service for project-related impacts, compensation to adversely impacted properties in reaches impacted by project operation in North Dakota and Manitoba; and a water control plan to release flood storage safely downstream.¹

The Federal government contributed \$41,100,000, Minot contributed \$10,000,000 and the state of North Dakota contributed \$1,800,000.

In addition to a significant role in the flood protection project of the 1980s, the City has committed to funding the local share of the Mouse River Enhanced Flood Protection Project (MREFPP) in direct response to the 2011 flood in the Mouse River Basin. This commitment include funding the local share of the project identified in the Rural Alternatives Analysis Report (RAAR).

¹ U.S. Army Corps of Engineers, St. Paul District, *Souris River Basin Project, Saskatchewan, Canada – North Dakota, U.S.A.*, General Plan Report and Final Environmental Impact Statement, July 14, 1988

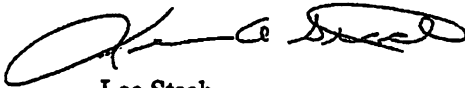
The Magic City

Now, various phases of design is taking place on the MREFPP and the RAAR. Currently, the cost share for engineering design work has been 60/40. Acquisition of properties has been a 75/25 cost share with the State. The estimated cost for the MREFPP from Burlington to Velva is \$843 million dollars. If the local share remains at 40 percent, Minot will contribute \$337,200,000. This does not include the local share for the RAAR portion of the project that is proceeding. The rural features are estimated at \$180 million dollars of which Minot's share would be \$72 million dollars on a 60/40 cost share.

The City of Minot also contributes to 35 percent of the cost of the Northwest Area Water Supply (NAWS) project. The NAWS project is designed to bring potable water from Lake Sakakawea to the area around Minot to include, Minot, Burlington, Berthold, West River, Upper Souris Water Authority, Kenmare, Rugby, and Bottineau. In 1998, voters in Minot voted to levy a one percent sales tax to go towards the construction of NAWS. Through May of 2016, the City has contributed over \$43 million dollars or 35.7 percent of the current total cost of NAWS, which includes design, construction, State Water Commission staff salaries and incidentals, and legal fees in supporting the EIS and SEIS that have been done, as well as ongoing litigation in the project.

The brief history of the prior flood control, future flood control, and NAWS efforts to provide potable water for Minot and the surrounding areas demonstrates Minot's commitment to a regional area commitment Minot serves.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lee Staab', with a stylized, cursive script.

Lee Staab
Minot City Manager

2017-2019
Unmet Needs \$193 Million

2017-2019
Request \$119 Million

Cost Share
Request 75% of total cost

The SRJB has developed a prioritized list of specific initiatives and projects for implementation through the end of fiscal year 2019 (June 30, 2019). This list includes projects that are currently being implemented or have already been completed. Through the end of fiscal year 2019, the estimated total unmet need for the program is \$193 million.

The SRJB is requesting \$119 million from the State of North Dakota to continue implementation of the Mouse River Enhanced Flood Protection Project for fiscal years 2018 and 2019. This funding level request is based on the current cost share policy of the State Water Commission (July 2016).

The SRJB and City of Minot are requesting consideration of a 75% cost share from the State of North Dakota for the Mouse River Enhanced Flood Protection Project. Presently, cost shares vary depending on the activity, with some acquisitions being eligible for up to 75% cost share and other flood control activities being eligible for up to 60% cost share. The City of Minot is contributing the local share for the entire \$1.028 billion project through the collection of a sales tax. The City of Minot is also providing the entire local share of the Northwest Area Water Supply (NAWS) project.

Description	2015-2017 Biennium (Currently Funded)	2017-2019 Biennium (New Request)
Acquisitions	\$ 28,000,000	\$ 24,000,000
USACE Feasibility Study	\$ 1,500,000	\$ -
Environmental Impact Statement / System Wide Assessments	\$ 1,200,000	\$ -
Design - Minot 4th Avenue Floodwalls	\$ 3,600,000	\$ -
Design - Minot Napa Valley / Forest Road	\$ 2,100,000	\$ -
Implementation - StARR Program	\$ 12,000,000	\$ 12,000,000
Design - Outlaw Creek	\$ 400,000	\$ -
Construction - Outlaw Creek	\$ -	\$ 3,000,000
Construction - Minot Broadway Pump Station	\$ -	\$ 20,000,000
Construction - Minot 4th Avenue Floodwalls	\$ -	\$ 38,000,000
Construction - Minot 4th Avenue Utility Relocations	\$ 500,000	\$ -
Construction - Minot Broadway Bridge Improvements	\$ 200,000	\$ -
Construction - Minot Perrett Ditch Improvements	\$ 3,000,000	\$ -
Construction - Minot Napa Valley / Forest Road	\$ 40,000,000	\$ -
Construction - Minot NW Regional Detention Pond Diversion	\$ 3,000,000	\$ -
Construction - Minot Napa Valley Utility Relocations	\$ 200,000	\$ -
Construction - Minot Highway 83 Bypass Improvements	\$ 2,400,000	\$ -
Design - Minot Maple Diversion	\$ -	\$ 12,000,000
Construction - Minot Maple Diversion	\$ -	\$ -
Design - Minot 4th Avenue Tieback	\$ 2,000,000	\$ -
Construction - Minot 4th Avenue Tieback	\$ -	\$ 14,000,000
Design - Tierrecita Vallejo	\$ 2,000,000	\$ -
Construction - Tierrecita Vallejo	\$ -	\$ 15,000,000
Design - Burlington	\$ 4,000,000	\$ -
Construction - Burlington	\$ -	\$ 32,000,000
Design - Velva Phase 1 (Hwy 41 Bridge)	\$ 600,000	\$ -
Construction - Velva Phase 1 (Hwy 41 Bridge)	\$ -	\$ 4,000,000
Design - Sawyer Phase 1 (CR 23 Bridge)	\$ 500,000	\$ -
Construction - Sawyer Phase 1 (CR 23 Bridge)	\$ -	\$ 4,000,000
Design - Mouse River Park Bridge and Gatewell	\$ 600,000	\$ -
Construction - Mouse River Park Bridge and Gatewell	\$ -	\$ 5,000,000
Design - Phase 1 JCS Conveyance Improvements	\$ 1,200,000	\$ -
Construction - Phase 1 JCS Conveyance Improvements	\$ -	\$ 10,000,000
Total	\$ 109,000,000	\$ 193,000,000
Estimated State Share	\$ 70,000,000	\$ 119,000,000
Estimated Local Share	\$ 39,000,000	\$ 74,000,000

Emergency Levee Constructed in 2011

Sink Hole Resulting from 2011 Flood



For additional information, please contact:

Souris River Joint Water Resource Board
David Ashley, Chairman
P.O. Box 1516
Minot, North Dakota 58702
Ph: (701) 626-1566



SOURIS RIVER JOINT WATER RESOURCE BOARD

MOUSE RIVER PLAN



CAPITAL IMPROVEMENTS PROGRAM

On June 25, 2011, the Mouse River flowed under Minot's Broadway Bridge at a record rate of 27,400 cubic feet per second (cfs) – more than five times the rate that existing channels and levees had been designed for. Not since 1882 had flows in excess of 20,000 cfs been seen. For weeks during the 2011 flood, water levels were too high for passenger and emergency vehicles to safely cross numerous area bridges. After flood waters receded, many bridges remained out of service for months while damages were assessed and repaired.

The record-breaking flow overwhelmed most flood fighting efforts along the entire reach of the Mouse River, causing extensive damages to homes, businesses, public facilities, infrastructure, farms and ranches. According to the U.S. Army Corps of Engineers (USACE), 4,700 residential, commercial and public structures in Renville, Ward and McHenry Counties sustained building and content damages totaling more than \$690 million. If emergency flood fighting measures had not been implemented, structure damages would have totaled roughly \$900 million. Infrastructure damages totaled hundreds of millions of dollars in the city of Minot alone.

Agricultural and rural infrastructure losses eclipsed \$100 million. The rural reaches of the Mouse River valley in North Dakota have endured frequent flood damages over the past two decades. Flooding has had significant impacts on the rural residents who make their livelihood along the river. Impacts from flooding in the rural areas are varied and widespread, including crop and hay losses, damage to structures, impacts to livestock, and loss of commerce due to inundated roads and bridges.

CONTINUE ON PAGE 2

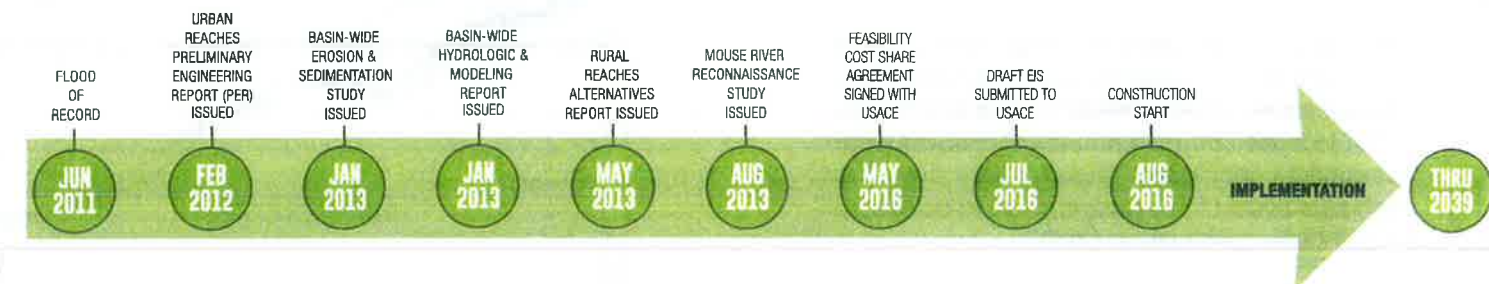
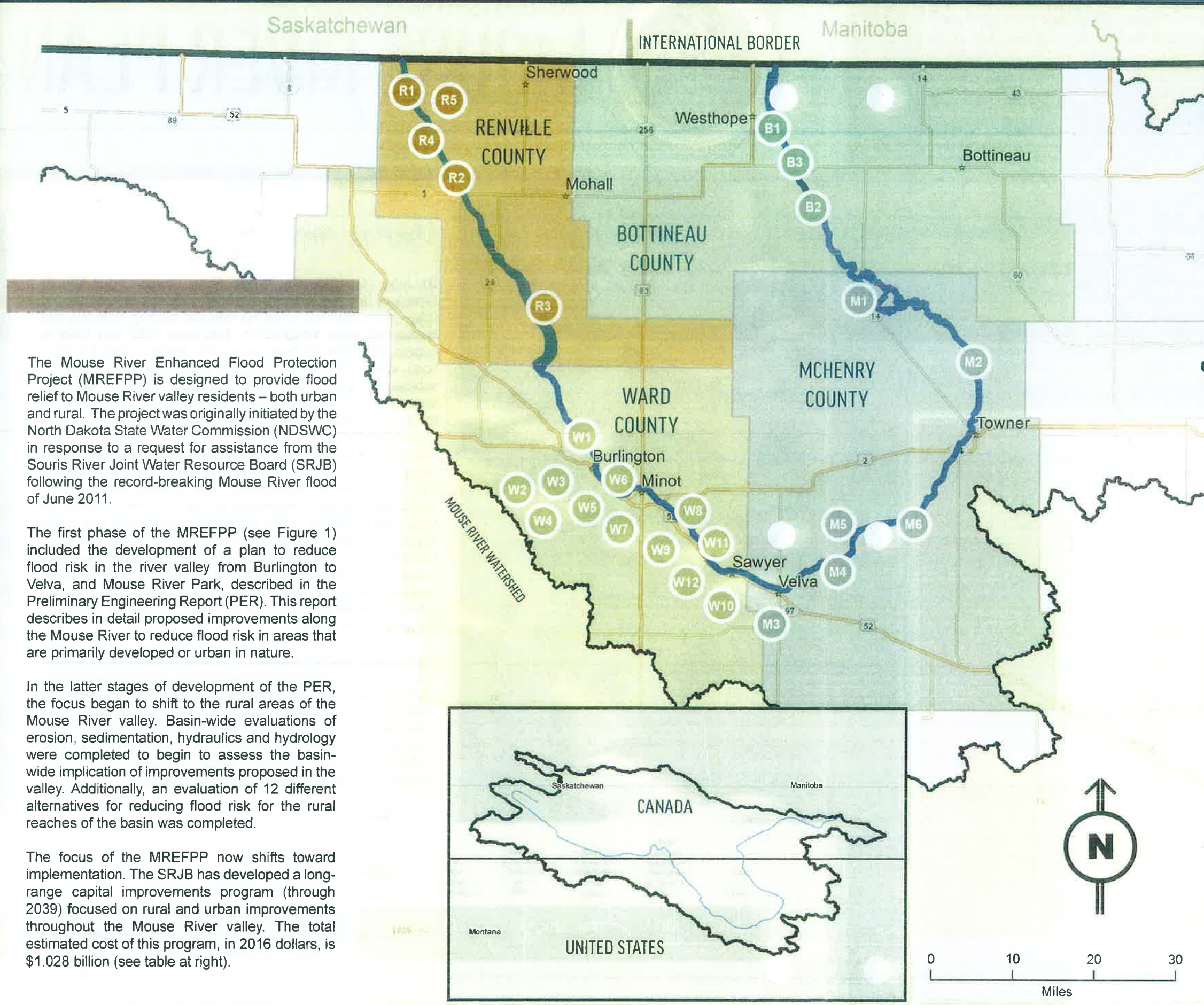


Figure 1. The initial focus of the MREFPP was developing a Preliminary Engineering Report for the urbanized portions of the basin. Additional reports identified potential solutions for the rural reaches of the valley. The current focus is on implementation.



The Mouse River Enhanced Flood Protection Project (MREFPP) is designed to provide flood relief to Mouse River valley residents – both urban and rural. The project was originally initiated by the North Dakota State Water Commission (NDSWC) in response to a request for assistance from the Souris River Joint Water Resource Board (SRJB) following the record-breaking Mouse River flood of June 2011.

The first phase of the MREFPP (see Figure 1) included the development of a plan to reduce flood risk in the river valley from Burlington to Velva, and Mouse River Park, described in the Preliminary Engineering Report (PER). This report describes in detail proposed improvements along the Mouse River to reduce flood risk in areas that are primarily developed or urban in nature.

In the latter stages of development of the PER, the focus began to shift to the rural areas of the Mouse River valley. Basin-wide evaluations of erosion, sedimentation, hydraulics and hydrology were completed to begin to assess the basin-wide implication of improvements proposed in the valley. Additionally, an evaluation of 12 different alternatives for reducing flood risk for the rural reaches of the basin was completed.

The focus of the MREFPP now shifts toward implementation. The SRJB has developed a long-range capital improvements program (through 2039) focused on rural and urban improvements throughout the Mouse River valley. The total estimated cost of this program, in 2016 dollars, is \$1.028 billion (see table at right).



BASIN WIDE IMPROVEMENTS

AFFECTING RENVILLE, WARD, MCHENRY AND BOTTINEAU COUNTIES

Renville County Projects (Thru 2039)		
R1	Rural Structure Acquisition, Relocation or Ring Dike	\$2 M
R2	Mouse River Park Levee Improvements	\$21 M
R3	Lake Darling Dam Operational Modifications	\$3 M
R4	Rural Bridge / Road Modifications	\$13 M
R5	Remove Trapped Water	\$1 M
Renville County Subtotal		\$40 M

Ward County Projects (Thru 2039)		
W1	Rural Structure Acquisition, Relocation or Ring Dike	\$25 M
W2	Burlington Levee System	\$36 M
W3	Robinwood / Brooks Addition Levee System	\$59 M
W4	Talbott's Levee System	\$7 M
W5	King's Court Levee System	\$17 M
W6	Tierracita Vallejo Levee System	\$17 M
W7	Minot Levee System	\$564 M
W8	Apple Grove Levee System	\$25 M
W9	Eastside Estates Levee System	\$13 M
W10	Sawyer Levee System	\$28 M
W11	Rural Bridge / Road Modifications	\$40 M
W12	Remove Trapped Water	\$1 M
Ward County Subtotal		\$832 M

McHenry County Projects (Thru 2039)		
M1	J. Clark Salyer Structure Modifications	\$21 M
M2	Rural Structure Acquisition, Relocation or Ring Dike	\$5 M
M3	Velva Levee System	\$21 M
M4	Rural Channel Modifications	\$15 M
M5	Rural Bridge / Road Modifications	\$21 M
M6	Remove Trapped Water	\$3 M
McHenry County Subtotal		\$86 M

Bottineau County Projects (Thru 2039)		
B1	J. Clark Salyer Structure Modifications	\$32 M
B2	Rural Channel Modifications	\$17 M
B3	Rural Bridge / Road Modifications	\$21 M
Bottineau County Subtotal		\$70 M

GRAND TOTAL: \$1.028 BILLION



North Dakota State Water Commission

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Agenda

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: *TSD* Todd Sando, PE, Chief Engineer/Secretary
SUBJECT: NDSWC Cost-Share Participation Request Sheyenne River Valley Flood Control Project
DATE: June 10, 2013

The cities of Valley City, Lisbon and Fort Ransom have been devastated by the multiple years of flooding and the actions that were needed to save their communities. Record flooding brought new heights in the elevation of the dikes and the expenses needed for recovery.

Each of the three cities are requesting to build a permanent flood control project. It is their intent to begin engineering and legal work for Phase 1 of their projects. The State Water Commission cost share policy does not allow eligibility for reimbursement of engineering or legal services. However, due to the multiple years of back to back flooding these communities have received from the Sheyenne River, limited ability to pay due to costs the cities have incurred on flood recovery efforts, and the effects of Devils Lake flood waters, we recommend an exception be made to provide cost share assistance for engineering design for these communities and to also allow a higher State Water Commission cost share percentage.

The recommended cost share percentage for design engineering for Valley City (85%), Lisbon and Fort Ransom (90%) is based on an estimate of the cities ability to pay, the cost incurred over the last several years fighting flooding and the increased risk incurred as you move downstream from the flood protection provided from Lake Ashtabula. Valley City estimated their engineering design costs at \$412,500. Fort Ransom has estimated their engineering design costs at \$250,000. The city of Lisbon's submission of \$2,595,000 are for engineering costs anticipated through the completion of construction and were calculated at approximately 30% of construction costs. Given the intent of this current action is to assist the communities with the preliminary engineering costs associated with development of a flood control project, it was decided to estimate their design engineering cost at \$778,500, based on 10% of the construction cost.

After the designs have been completed, we expect that there will be requests for cost share assistance for construction of these projects. The issues, which resulted in the recommendation for cost sharing engineering at a high percentage, will remain. If adequate flood control is going to be constructed for these communities, the State Water Commission will need to provide a higher percentage of cost share than the current policy allows.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

The following table shows state cost share for engineering services by city.

City	Recommended Cost Share Percentage	State Cost Share
Valley City	85%	\$350,625
Lisbon	90%	\$700,650
Fort Ransom	90%	\$225,000
Totals		\$1,276,275

I recommend that the State Water Commission approve this request for state cost participation in the Sheyenne River Valley Flood Control Project, at an amount not to exceed \$1,276,275 (Valley City - \$350,625) (Lisbon - \$700,650) (Fort Ransom - \$225,000) from the funds appropriated to the State Water Commission in the 2011-2013 biennium by SB 2371. This approval is subject to the entire contents of the recommendation contained herein and the availability of funds.

TS:MMB/1344

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

**SHEYENNE RIVER VALLEY
FLOOD PROTECTION PROGRAM -
APPROVAL OF STATE COST
PARTICIPATION -
2011 SENATE BILL 2371 - \$1,276,275
(CITY OF VALLEY CITY - \$350,625)
(CITY OF LISBON - \$700,650)
(CITY OF FORT RANSOM - \$225,000)
(SWC Project No. 1344)**

The cities of Valley City, Lisbon, and Fort Ransom have been devastated by the multiple years of flooding and the actions that were needed to save their communities. Record flooding brought new heights in the elevation of the dikes and the expenses for recovery. It is the intent of each of these cities to construct permanent flood protection projects from the Sheyenne River. The following

estimates for engineering design costs were submitted from the communities of Valley City (\$412,500), Lisbon (\$2,595,000), and Fort Ransom (\$250,000) and were presented for the State Water Commission's consideration for state cost participation. It was noted that the City of Lisbon's submission of \$2,595,000 was intended for engineering costs anticipated through the completion of construction and were calculated at approximately 30 percent of the construction costs.

The State Water Commission's cost share policy does not allow eligibility for reimbursement of engineering or legal services. Due to the multiple years of back-to-back flooding these communities have received from the Sheyenne River, their limited ability to pay due to expenses the cities have incurred on flood recovery efforts, and the effects of Devils Lake floodwaters, it was the recommendation of Secretary Sando that an exception be made to provide cost share assistance for engineering design for these communities, and to allow for a higher State Water Commission cost share percentage.

The following cost share percentages were presented for the State Water Commission's consideration: City of Valley City - 85 percent, City of Lisbon - 90 percent, and the City of Fort Ransom - 90 percent. Secretary Sando explained that the cost share percentage is based on an estimate of the city's ability to pay, the expenses incurred over the last several years of fighting floods, and the increased risk incurred downstream from the flood protection provided from Lake Ashtabula. To assist the communities with their preliminary engineering design costs associated with development of a flood control project, the engineering design cost was estimated at \$778,500, based on 10 percent of the construction cost.

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation not to exceed a total allocation of \$1,276,275 from the funds appropriated to the State Water Commission in 2011 Senate Bill 2371 for the Sheyenne River Valley Flood Protection Program to support the following flood protection projects: City of Valley City (\$350,625 - 85 percent), City of Lisbon (\$700,650 - 90 percent), and the City of Fort Ransom (\$225,000 - 90 percent).

It was moved by Commissioner Foley and seconded by Commissioner Berg that the State Water Commission approve state cost participation not to exceed a total allocation of \$1,276,275 from the funds appropriated to the State Water Commission in 2011 Senate Bill 2371 for the Sheyenne River Valley Flood Protection Program to support the following flood protection projects: City of Valley City (\$350,625 - 85 percent), City of Lisbon (\$700,650 - 90 percent), and the City of Fort Ransom (\$225,000 - 90 percent). This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

**FARGO MOORHEAD AREA
DIVERSION PROJECT REPORT
(SWC Project No. 1928)**

Pat Zavoral, Fargo City Administrator, provided a status report on the Fargo Moorhead Area Diversion project, and presented the Diversion Authority's

2013-2015 biennium work plan. An outline of the presentation is included herewith as **APPENDIX "D"**.

**NORTHWEST AREA WATER
SUPPLY (NAWS) PROJECT -
STATUS REPORTS
(SWC Project No. 237-04)**

The Northwest Area Water Supply (NAWS) project and construction status reports were provided, which are detailed in the staff memorandum dated June 7, 2013, and attached hereto as **APPENDIX "E"**.

**NORTHWEST AREA WATER
SUPPLY (NAWS) PROJECT -
CONTRACT 4-2A-1, HIGH
SERVICE PUMP STATION
MODIFICATIONS
(SWC Project No. 237-04)**

On June 12, 2013, one proposal was opened for Northwest Area Water Supply Project, Contract 4-2A-1, High Service Pump Station Modifications. The scope of work consists of the installation of a 40 HP jockey pump and associated switchgear and controls at

the high service pump station. The jockey pump is being installed to alleviate wear on

Commissioners Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

**VALLEY CITY PERMANENT
FLOOD PROTECTION PROJECT -
APPROVAL OF STATE COST
PARTICIPATION (\$8,679,680)
(SWC Project No. 1504)**

The City of Valley City began developing a permanent flood protection project in 2011 after suffering its worst flood in history in 2009 and its second worst flood in 2011. Due to the multiple years of back-to-back flooding the city has received from the Sheyenne River, their limited ability to pay due to expenses incurred on flood recovery efforts, and the effects of the Devils Lake floodwaters, the State Water Commission adopted a motion on June 19, 2013 to approve an allocation not to exceed \$350,625 from the funds appropriated to the State Water Commission in 2011 Senate Bill 2371 for the Sheyenne River Valley Flood Protection Program to the City of Valley City to assist with engineering design costs for the city's flood protection project.

On March 17, 2014, representatives from the City of Valley City appeared before the State Water Commission to discuss the status of the city's permanent flood protection project, and the accomplishments which included Phase I property acquisitions of 29 properties along College Street and within the district of the Valley City State University, and 13 additional properties which are scheduled for acquisition in Phase II. The proposed preliminary project design for floodwall construction on the Valley City State University campus consists of clay levees, permanent concrete walls, and removable floodwalls.

The project engineer's estimated cost is \$12,540,294, of which \$10,849,600 is determined eligible for state cost participation as a flood control project at 60 percent of the eligible costs (\$6,509,760). The 2013 Legislature earmarked \$11,600,000 for the project, but the funds will not be allocated until the project is shovel-ready. On April 1, 2014, the Valley City Commission approved the Phase I project's final plans. Contingent upon the required approvals, construction on Phase I could begin in the summer of 2014.

Due to the financial consequences of numerous floods in recent years, representatives from the City of Valley City presented a request for the State Water Commission's consideration for state cost participation of 85 percent, and that the local cost share be considered for a loan from the State Water Commission.

It was the recommendation of Secretary Sando that the State Water Commission: 1) approve state cost participation as a flood control project at 60 percent of the eligible costs (\$6,509,760); 2) due to the increased

flood risk from the Devils Lake outlets, the State Water Commission deviate from its current cost share policy for an additional state cost participation of 15 percent of the eligible costs (\$1,627,440) to mitigate the flood risk from the Devils Lake outlets, which would provide a total state cost participation of 75 percent not to exceed a total allocation of \$8,137,200 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the City of Valley City for its permanent flood protection project; and 3) approve a loan from the State Water Commission to the City of Valley City for the local cost share (\$4,403,094), with an interest rate of one and one-half percent, and authorize the Secretary to the Commission to negotiate the term of the loan.

It was moved by Commissioner Goehring and seconded by Commissioner Thompson that the State Water Commission:

1) approve state cost participation as a flood control project at 60 percent of the eligible costs (\$6,509,760), from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020);

2) approve state cost participation of 15 percent of the eligible costs (\$1,627,440) to mitigate the flood risk from the Devils Lake outlets, from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020); and

3) approve a loan from the State Water Commission to the City of Valley City for the local cost share (\$4,403,094), with an interest rate of one and one-half percent, and authorize the Secretary to the Commission to negotiate the term of the loan.

These actions are contingent upon the availability of funds, and satisfaction of the required permits.

Commissioners Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

The above approvals include a total state cost participation grant of 75 percent not to exceed a total allocation of \$8,137,200, and a loan in the amount of \$4,403,094 to the City of Valley City for its permanent flood protection project.

During the May 29, 2014 State Water Commission meeting, Governor Dalrymple recognized Commissioner Goehring who requested amendments to the motion which was adopted for the City of Valley City's permanent flood protection project that would increase the total state cost participation to 80 percent not to exceed a total allocation of \$8,679,680, and change the amount of the loan to the city for the local cost share to \$3,860,614.

It was moved by Commissioner Goehring and seconded by Commissioner Thompson that the State Water Commission amend the motion that was adopted for the City of Valley City permanent flood protection project as follows:

- 1) approve state cost participation as a flood control project at 60 percent of the eligible costs (\$6,509,760);***
- 2) approve state cost participation of 20 percent of the eligible costs (\$2,169,920) to mitigate the flood risk from the Devils Lake outlets; and***
- 3) approve a loan from the State Water Commission to the City of Valley City for the local cost share (\$3,860,614), with an interest rate of one and one-half percent, and authorize the Secretary to the Commission to negotiate the term of the loan.***

These actions are contingent upon the availability of funds, and satisfaction of the required permits.

Commissioners Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion, as amended, unanimously carried.

The above approvals include a total state cost participation grant of 80 percent not to exceed a total allocation of \$8,679,680 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), and a loan in the amount of \$3,860,614 to the City of Valley City for its permanent flood protection project.

**CITY OF LISBON PERMANENT
FLOOD CONTROL PROJECT, PHASE 1 -
LEVEE A - APPROVAL OF STATE
COST PARTICIPATION (\$1,238,698)
(SWC Project No. 1991)**

A request from the City of Lisbon was presented for the State Water Commission's consideration for state cost participation of 100 percent for the city's permanent flood protection project, Phase 1 - Levee A.

The city has experienced major flood events in recent years due to Sheyenne River flooding. During the large flood events, emergency levees were built through the city in an effort to retain flood waters, which resulted in significant costs during the construction and removal of the emergency levees. Construction of the emergency levees damaged the existing streets and infrastructure not designed to handle heavy construction traffic. The city has been forced to postpone Phases 3 and 4 of a large city water and sewer infrastructure replacement project due to the costs it has incurred fighting floods. The completed project will provide permanent flood protection for the city eliminating the need for emergency flood fighting efforts. Once all phases are completed, the total project would protect the City of Lisbon from the 1 percent (100-year) flood event as described by the Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA).

The proposed project would install a clay levee through an area on the northwest side of the city that involves crossing through Sandagger Park. The proposed levee would tie into an existing high ground on the northwest side of the park and end at North Dakota State Highway No. 32. Sandagger Park is an area that provides important aesthetic and recreational benefits to the city of Lisbon. The area also provides a source of positive economic benefits to the city. Due to the levee footprint, river set back requirements, and required 15 foot clear zone on both sides of the levee, several amenities in the park will need to be relocated including a campground, bathhouse, pump house, skate park, and volleyball court.

The project engineer's estimated cost for Phase 1 - Levee A is \$1,775,000, of which \$1,548,372 has been determined eligible for state cost participation as a flood control project at 60 percent of the eligible costs (\$929,023).

It was the recommendation of Secretary Sando that the State Water Commission: 1) approve state cost participation as a flood control project at 60 percent of the eligible costs (\$929,023); 2) deviate from its current cost share policy to approve an additional state cost participation of 20 percent of the eligible costs (\$309,675) to mitigate the flood risk from the Devils Lake outlets, which will provide a total state cost participation of 80 percent not to exceed a total allocation of \$1,238,698 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the City of Lisbon for its permanent flood protection project, Phase 1 - Levee A; and 3) approve a loan from the State Water Commission to

May 29, 2014 - 21

the City of Lisbon for the local cost share (\$536,302), with an interest rate of one and one-half percent, and authorize the Secretary to the Commission to negotiate the term of the loan.

It was moved by Commissioner Goehring and seconded by Commissioner Foley that the State Water Commission:

- 1) approve state cost participation as a flood control project at 60 percent of the eligible costs (\$929,023);***
- 2) approve state cost participation to mitigate the flood risk from the Devils Lake outlets at 20 percent of the eligible costs (\$309,675); and***
- 3) approve a loan to the City of Lisbon from the State Water Commission for the local cost share (\$536,302), at an interest rate of one and one-half percent; and, authorize the Secretary to the State Water Commission to negotiate the term of the loan.***

These actions are contingent upon the availability of funds, and satisfaction of the required permits.

Commissioners Foley, Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

The above approvals include a total state cost participation grant of 80 percent not to exceed a total allocation of \$1,238,698 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B.1020), and a loan in the amount of \$536,302 to the City of Lisbon for its permanent flood protection project, Phase 1 - Levee A.

***NORTH CENTRAL RURAL WATER
CONSORTIUM II, DEERING-GRANVILLE-
SURREY RURAL WATER SUPPLY -
APPROVAL OF ADDITIONAL STATE COST
PARTICIPATION GRANT (\$4,800,000)
(SWC Project No. 237-03NOC)***

to the North Central Rural Water Consortium II for engineering and a cultural resource study of the Granville-Deering rural water supply project.

On July 23, 2013, the State Water Commission passed a motion to approve a state cost participation grant of 75 percent, not to exceed an allocation of \$180,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020),



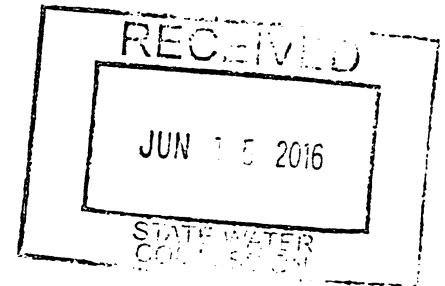
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June 15, 2016

Mr. Garland Erbele, PE
State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, ND 58105-0850



**RE: City of Grafton Request for Construction and Construction Engineering Funding
Grafton Flood Risk Reduction Project**

The City of Grafton is requesting State Water Commission (SWC) funding for the Construction and Construction Engineering for the City's Flood Risk Reduction Project.

The City has completed the hydrology and hydraulics, geotechnical exploration, cultural and wetland field reviews and reports, wetland mitigation plan, data book creation, gathering title information, right of way plat preparation and 65% design plans. The 404 permit has been submitted to the COE, meetings with the SWC, FEMA and the local floodplain administrators on the Conditional Letter of Map Revision (CLOMR) have been ongoing. The impact analysis, floodplain permits and construction permits are also being developed as the project progresses. Utility and agency coordination has been ongoing.

The City has estimated construction and construction engineering to be \$47,400,000 and is requesting a 75/25 cost split from the NDSWC. Based on this estimate the NDSWC cost share would be \$35,550,000. Currently \$25,000,000 was budgeted for the project in the '15-'17 biennium and \$7,175,000 has been carried over from the 2010 biennium for a total of \$32,175,000 or approximately 68%. Using the estimate would require an additional \$3,375,000 from the NDSWC. Based on the current project schedule, the potential for additional funds above what has already been budgeted for the project would not be needed until the next biennium and may not be needed if project costs come in under the current estimate.

To afford the local share of the project the City passed a sales tax increase in 2014 that will be dedicated to the project. A city wide special assessment district has been created should the sales tax fall short. A project of this size is a major financial burden for the City. We are asking for a deviation from cost share policy as the city can finance a local share of \$12,000,000 and still be able to maintain other infrastructure needs in the community. Exceeding a local share of \$12,000,000 will place a financial hardship on the community.

The City of Grafton is an equal opportunity employer

The City is currently looking at starting right of way acquisitions for the project in July 2016 and construction of the project in late 2016 with a majority of the work being completed in 2017 and 2018.

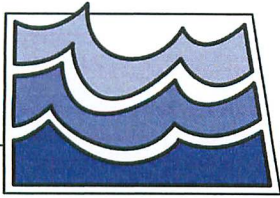
Thank you for your assistance with our project. If you need additional information, feel free to contact me at 701-352-1561.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chris West', with a stylized, flowing script.

Chris West
Mayor, City of Grafton

Breakout Corridor Easements



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • <http://swc.nd.gov>

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: Cost-Share Policy – Breakout Corridors
DATE: September 21, 2016

During the July 6, 2016 meeting, the State Water Commission considered a request from the City of Wahpeton to provide cost share assistance for the costs associated with the acquisition of easements to preserve the conveyance capacity of a breakout corridor where the Bois De Sioux River naturally breaks out and flows overland to the Wild Rice River. This breakout was included in the effective Flood Insurance Study, and its preservation was considered a required element in order to accredit the Wahpeton-Breckenridge levee system. The request was ultimately approved, but the issue was noted as warranting additional consideration by the cost share policy committee.

Currently our cost share policy specifically identifies easement costs as ineligible as well as property acquisition costs unless those are specifically identified as eligible within the Flood Recovery Acquisition Program, the Flood Protection Program, or Water Retention Projects. Under the description of the Flood Protection Program, the policy states:

...Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program.

The policy does not specifically address the eligibility of procuring easements to preserve a breakout corridor. Given the rarity with which these sorts of requests have been received, it is unlikely the question was considered at the time the policy was developed.

The following options are suggested for discussion purposes:

Option 1

Make these costs specifically ineligible, which would be in conflict with the action taken in the case of the Wahpeton request.

Option 2

Recognize the infrequency with which these requests are received and simply deal with them as they occur as a possible exception to existing policy

September 21, 2016

Option 3

Determine that the current language already provides for funding such easements when the breakout flows were included in the effective FIS model and are a critical component of levee accreditation by interpreting the breakout corridor to be so integral to the functionality of the project they are considered “within the footprint” of the project.

Option 4

Make easement acquisitions for the preservation of breakout corridors expressly eligible. The eligibility could be limited to those instances where preservation of the breakout corridor is necessary for levee accreditation.

One possible approach would be to edit the current third paragraph under the Flood Protection Program discussion as follows:

Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program. **Costs for property acquired, by easement or fee title, to preserve the conveyance of a breakout corridor recognized as essential to system accreditation, may be eligible.** The local sponsor must include...

GE:CO/1753

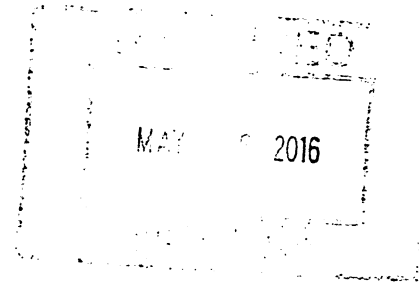
WAHPETON PUBLIC WORKS

1900 4th Street North · PO Box 490 · Wahpeton, ND 58074 · Phone 701-642-6565 · Fax 701-642-1428



May 5, 2016

ND State Water Commission
ATTN: Cost-Share Program
900 E Boulevard Ave.
Bismarck, ND 58505-0850



RE: Cost-Share Request Forms for Flood Control Projects Wahpeton, ND

Dear Ms Nangare.:

Wahpeton is submitting Cost-Share Request Forms for four flood control projects in Wahpeton. Each of the submittals contains the Cost-Share Request Form, Flood Control or Recovery Project Benefit Summary, and additional project data. All four of the projects are required for the flood levee protection system to be certified by the Corps of Engineers. Three of the submittals are for actual construction projects. The fourth submittal is for breakout easements south of Wahpeton. Below is a summary of each of the projects.

1. Slurry Trench at Bois De Sioux Golf Course

This project was completed in 2014 and was temporarily funded by the City of Wahpeton. The project consisted of building a slurry trench along a portion of the levee in the golf course. The slurry trench was needed as the Corps of Engineers determined that there was a sand layer in this area that extended underneath the levee. During high water events the sand layer allowed water from the river to infiltrate under the levee; therefore compromising the structural integrity of the levee. The slurry trench creates an impermeable wall that stops water from getting under the levee. The City is asking for 50% cost share for the Slurry Trench project as we move into permanent financing. The City will pay the balance from sales tax for flood.

2. Physical and Fiscal Completion of the Flood Risk Management Project

This ask is for costs associated with the Corps of Engineers to complete the As-built drawings, complete the PIR that is submitted to FEMA, LSER and O&M manuals for the levee system. All of these items need to be completed for the certification of the levee. The City is asking for 50% cost share for the Physical and Fiscal Completion of the Flood Risk Management Project. The City will pay the balance from sales tax for flood.

3. Toe Drain and Encroachment Project

This project removes encroachments from the levee system within the zoo area. This stretch of levee was one of the first stretches built in Wahpeton after the 1997 flood. After Hurricane Katrina the Corps of Engineers came out with new requirements for flood protection levee

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systems. One of those requirements is the Vegetation Free Zone. This project will remove the encroachments from the levee, which include trees, fencing, and exhibits within the zoo. A number of the exhibits will need to be relocated as the space will no longer meet the AZA requirements. The Corps of Engineers is also requiring that access manholes be installed on the toe drain system. The City is asking 50% of the total cost of the project that is LERD Certifiable through the Corps of Engineers for the Toe Drain and Encroachment Project. The City will pay the balance from sales tax for flood.

4. Breakout Easements

The Corps of Engineers has determined that breakout easements are needed south of Wahpeton. The hydraulic model for the levee design took into account the natural breakout flows of the Bois de Sioux River, in times of flooding, which then flows naturally to the Wild Rice River thus bypassing the Red River that travels through the City. The breakout was used in the hydraulic model, which determined the top of levee height. The easements will be in place to prevent the land in the breakout area from being altered to adversely affect the natural breakout flow.

If you have questions or would like additional information, feel free to contact me by phone at 642-6565 or by email at dennism@wahpeton.com.

Sincerely

CITY OF WAHPETON

A handwritten signature in black ink that reads "Dennis Miranowski".

Dennis Miranowski
Public Works Director

Enclosures

Cc:

Breakout Area for Wahpeton Flood Control



T132N, R47W
CENTER TOWNSHIP

SUMMIT TOWNSHIP
T131N, R47W

Reverse flow leaves river
during high water in Ditch 55

County Ditch 55

Breakout on left bank
Cross Section 918.5

Legend
 Hatched Reserved
 Section Line
 Township Line

Tract #	Name	Acres
9-106P & 9-107P	BELTZ SIBLINGS	150.98
9-112P	BELTZ SIBLINGS	300.96
9-100P & 9-101P	GILLES, D & L	237.59
9-102P	KUBELA, T & B	77.00
9-117P	KUBELA, T & B	36.90
9-114P	KUBELA, T, RLT	35.71
9-116P	KUBELA, T, RLT	360.00
9-118P	KUBELA, T, RLT	40.90
9-110P	LUICK, JOHN	39.97
9-109P	MILLER, CASEY	39.97
9-111P	MILLER, CASEY	71.11
9-104P	MILLER, DANIEL	58.00
9-113P	MILLER, JOLENE	45.83
9-105P	MILLER, JON E	53.51
9-108P	MILLER, JON E	32.32
9-103P	YAGGE, M & M	348.98
9-115P	YAGGE, M & M	4.11

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the 2015-2017 biennium (S.B. 2020), to the city of Bisbee to support the Big Coulee Dam repair project. This action is contingent upon the availability of funds, and satisfaction of the required permits.

Commissioners Berg, Goehring, Foley, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

This approval increases the total state allocation grant to \$1,015,983 for the Big Coulee Dam repair project.

***CITY OF WAHPETON FLOOD
RISK MANAGEMENT PROJECT -
APPROVAL OF STATE COST
PARTICIPATION GRANTS:***

(LEVEE CERTIFICATION-\$247,500)

(TOE DRAIN/ENCROACHMENT-\$1,125,482)

BREAKOUT EASEMENTS-\$265,250)

(SWC Project No. 2074)

A request from the city of Wahpeton was presented for the State Water Commission's consideration for state cost participation for their Flood Risk Management project, including levee certification, toe drain and encroachment project, and breakout easements.

The city's request for state cost participation is associated with the U.S. Army Corps of Engineers to complete the As-built drawings, the project information report (PIR), and the O&M manuals in order to complete the levee system certification by the Corps of Engineers and FEMA. The Corps has determined that a contribution of \$495,000 is required from the city of Wahpeton for the physical and fiscal completion of the flood risk management project no later than October 31, 2016. The request from the city of Wahpeton is for a 50 percent state cost participation of the levee certification (\$247,500).

In order for the levee to be certified by the U.S. Army Corps of Engineers and FEMA, all encroachments of the levee system within the zoo area will need to be removed. This stretch of levees was one of the first stretches built in the city after the 1997 flood. After Hurricane Katrina, the Corps of Engineers required a Vegetation Free Zone for a flood protection system. This project will remove encroachments from the levee including trees, fencing, and exhibits within the zoo as the space will no longer meet the American Zoo and Aquarium (AZA) requirements. The Corps of Engineers is also requiring that access manholes be installed on the toe drain system. The Corps of Engineers has determined the estimated cost of the toe drain and encroachment project is \$2,523,838, of which \$2,126,531 is determined eligible for state cost participation at 50 percent as a flood control project (\$1,063,266), and \$177,760 is determined eligible for state cost participation at 35 percent for pre-construction engineering (\$62,216), for a total state cost participation of \$1,125,482.

The Corps of Engineers has determined that breakout easements are needed south of the city of Wahpeton. The hydraulic model for the levee design took into account the natural breakout flows of the Bois de Sioux River, in times of flooding, which then flows naturally to the Wild Rice River bypassing the Red River that travels through the city. The breakout was used in the hydraulic model which determined the top of the levee height. The easements will be in place to prevent the land in the breakout area from being altered to adversely affect the natural breakout flow. The Corps of Engineers has determined the estimated cost of the breakout easements is \$530,500.

The North Dakota State Water Commission Cost Share Policy, Procedure, and General Requirements identifies easement costs as ineligible. The policy identifies specific exceptions to that ineligibility for flood control projects including property acquisition within a project's footprint, but not specific to easements preserving a breakout corridor. The preservation of a breakout corridor's preservation was not envisioned at the time the cost share policy was written,

therefore, the requested easement acquisitions do not appear to be eligible for state cost participation within the interpretation of the cost share policy.

It was the recommendation of Secretary Erbele that the State Water Commission approve a state cost participation grant of 50 percent of the eligible costs as a flood control project for the City of Wahpeton Flood Risk Management project, levee certification (\$247,500) from the funds appropriated to the State Water Commission in the 2015-2017 biennium (S.B. 2020); and a state cost participation grant of 50 percent of the eligible costs as a flood control project for the toe drain and encroachment project (\$1,063,266), and a 35 percent grant of the eligible costs for pre-construction engineering (\$62,216), not to exceed a total allocation of \$1,125,482 from the funds appropriated to the State Water Commission in the 2015-2017 biennium (S.B. 2020) for the City of Wahpeton Flood Risk Management project.

It was moved by Commissioner Foley and seconded by Commissioner Thompson that the State Water Commission:

1) approve a state cost participation grant of 50 percent of the eligible costs as a flood control project not to exceed an allocation of \$247,500 from the funds appropriated to the State Water Commission in the 2015-2017 biennium (S.B. 2020), for the City of Wahpeton Flood Risk Management project, levee certification; and

2) approve a state cost participation grant of 50 percent of the eligible costs as a flood control project, and a 35 percent grant of the eligible costs for pre-construction engineering, not to exceed a total allocation of \$1,125,482 from the funds appropriated to the State Water Commission in the 2015-2017 biennium (S.B. 2020), for the City of Wahpeton Flood Risk Management project, toe drain and encroachment project.

These approvals are contingent upon the availability of funds, and satisfaction of the required permits.

The state cost participation request for the City of Wahpeton Flood Risk Management project, breakout easements, was deliberated at length. Because this is a unique project and a major component requirement of the Corps of Engineers for levee certification of the City of Wahpeton Flood Risk Management Project, the Commission members expressed a general consensus for a state cost participation. It was also requested that funding for easements be placed on the agenda for a future cost share policy meeting for discussion.

A substitute amendment to the original motion was offered by Commissioner Swenson and seconded by Commissioner Berg that the State Water Commission approve a 50 percent state cost participation grant of the eligible costs as a flood control project not to exceed an allocation of \$265,250 from the funds appropriated to the State Water Commission in the 2015-2017 biennium (S.B. 2020), to support the City of Wahpeton Flood Risk Management project, breakout easements project. This approval is contingent upon the availability of funds, and satisfaction of the required permits.

Governor Dalrymple called the question on the substitute amendment to the original motion, and asked for a roll call vote:

Commissioners Berg, Goehring, Foley, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the substitute amendment to the original motion unanimously carried.

Governor Dalrymple called the question on the original motion, as amended, and asked for a roll call vote:

Commissioners Berg, Goehring, Foley, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the original motion, as amended, unanimously carried.

***LYNCHBURG-BUFFALO CHANNEL
IMPROVEMENTS PROJECT (CASS
COUNTY) - APPROVAL OF STATE COST
PARTICIPATION GRANT (\$1,195,126)
(SWC Project No. 1951)***

A request from the Maple River Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Lynchburg-Buffalo channel improvements project. The proposed project is

located in Everest and Durbin townships in Cass County and involves the reconstruction of approximately 5.2 miles of an existing legal assessment drain located near the city of Durbin.

The Lynchburg channel is part of a 1959 federal project with the Soil Conservation Service. The channel has incurred issues with sloughing and significant channel bottom erosion and sliding on the side slopes. The drain will be reconstructed with a stable 10-foot channel bottom profile, 8H:IV side slopes, and a consistent channel profile. Three section line bridges along the channel will be replaced with box culverts. In conjunction with this proposed project, the Red River Valley & Western Railroad Company is planning to improve the railroad bridge over the channel. The District expects to complete the project construction by the end of 2016. A construction permit application was received in the Office of the State Engineer on June 20, 2016 and is pending review.

selection process for a general engineering services agreement at least once every three years and have formally assigned work to a firm or firms under an agreement. The local sponsor must inform the Chief Engineer of any change in the provider of general engineering services.

- D. IMPROVEMENTS** are construction related projects that upgrade a facility to provide increased efficiency or capacity. Improvements do not include any activities that are maintenance, replacement, or reconstruction.
- E. INELIGIBLE ITEMS** excluded from cost-share include:
- 1 Administrative and easement costs, including those related to permits;
 - 2 Property acquisitions, property surveys, and legal expenses unless specifically identified as eligible within the Flood Recovery Property Acquisition Program, the Flood Protection Program, or the Water Retention Projects;
 - 3 Work and costs incurred prior to a cost-share approval date, except for emergencies as determined by the Chief Engineer;
 - 4 Project related operation and regular maintenance costs;
 - 5 Funding contributions provided by federal, other state, or other North Dakota state entities that supplant costs;
 - 6 Work incurred outside the scope of the approved study or project.
- F. EXPANSIONS** are construction related projects that increase the project area or users served. Expansions do not include maintenance, replacement, or reconstruction activities.
- G. LOCAL SPONSOR** is the entity submitting a cost-share application and must be a political subdivision, state entity, or commission legislatively granted North Dakota recognition that applies the necessary local share of funding to match State Water Commission cost-share. They provide direction for studies and projects, public point of contact for communication on public benefits and local concerns, and acquire necessary permits and rights-of-way.
- H. REGULAR MAINTENANCE COSTS** include normal repairs and general upkeep of facilities to allow facilities to continue proper operation and function. These maintenance items occur on a regular or annual basis. Regular maintenance activities simply help ensure the asset will remain serviceable throughout its originally predicted useful life.
- I. PROGRAM** is a subcategory of cost-share that is typically associated with a federal initiative and may cover all phases of a study or implementation of a project.
- J. PROJECT** is the water-related construction activity.
- K. EXTRAORDINARY MAINTENANCE COSTS** include the repair or replacement of portions of facilities or components that extends the overall life of the system or

Services, the cost-share application will be returned to the local sponsor for submittal for federal funding prior to use of these funds.

- 2 **FLOOD PROTECTION PROGRAM.** This program supports local sponsor efforts to prevent future property damage due to flood events. The State Water Commission may provide cost-share grants for up to 60 percent of eligible costs. For projects with federal participation, the cost-share may be up to 50 percent of eligible costs.

The cost-share application must include the return interval or design flow for which the structure will provide protection. Local share must be provided on a timely basis. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

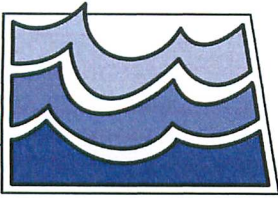
Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program. The local sponsor must include a perpetual restrictive covenant on any properties purchased under this program similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

- 3 **FEMA LEVEE SYSTEM ACCREDITATION PROGRAM.** The State Water Commission may provide cost-share up to 60 percent for eligible services for FEMA 44 CFR 65.10 flood control or reduction levee system certification analysis. The analysis is required for FEMA to accredit the levee system for flood insurance mapping purposes. Typical eligible costs include site visits and field surveys to include travel expenses, hydraulic evaluations, closure evaluations, geotechnical evaluations, embankment protection, soils investigations, interior drainage evaluations, internal drainage hydrology and hydraulic reports, system modifications, break-out flows and all other engineering services required by FEMA. The analysis will result in a comprehensive report to be submitted to FEMA and the Chief Engineer.

Administrative costs to gather existing information or to recreate required documents, maintenance and operations plans and updates, and emergency warning systems implementation are not eligible.

- 4 **DAM SAFETY AND EMERGENCY ACTION PLANS.** The State Water Commission supports dam safety including repairs and removals, as well as emergency action plans. The State Water Commission may provide cost-share for up to 75 percent of the eligible items for dam safety repair projects and dam breach or removal projects. Dam safety repair projects that are funded with federal or other agency funds may be cost-shared up to 75 percent of the eligible non-matched costs. The intent of these projects is to return the dam to a state of being safe from the condition of failure, damage, error, accidents, harm or other events that are considered non-desirable. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

Ring Dike Program – Limit Per Project



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 • FAX (701) 328-3696 • <http://swc.nd.gov>

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: Cost-Share Policy – Ring Dike Funding Limitation
DATE: September 21 2016

Current policy allows for cost share assistance for ring dikes constructed to protect individual rural homes and farmsteads. Cost share is provided up to 60% of eligible costs with a limit of \$40,000 per ring dike. The \$40,000 limit was established some years ago; records show it dating back at least to 2009. In discussions with current project sponsors, we have been told that the limit seems low for the projects they were contemplating.

This includes those working on the STARR program for the Mouse River Flood Control Project. Numbers they have provided for four proposed ring dikes for which preliminary designs have been completed include the following:

<u>Total Cost</u>	<u>60%</u>
\$ 72,663	\$ 43,598
\$ 79,519	\$ 47,711
\$147,805	\$ 88,688
\$326,173	\$195,704

These cost estimates for the STARR program include design, permitting, construction engineering and as-built costs. For most ring dike programs sponsored by Water Resource Districts in the past in the Red River Valley, many of the landowners simply constructed the ring dikes themselves eliminating or greatly reducing engineering costs. However, if the ring dikes are large enough to require a construction permit from the State Engineer (internal capacity greater than 50 acre-feet) then engineering would be a requirement.

We queried several local contractors and asked what price increases they've seen for dirt work since 2009, and the consensus was approximately a 30% increase. On that basis, it may be appropriate to consider raising the cap to \$50,000 or \$55,000.

GE:CO/1753

has been obtained. If the local sponsor wishes to submit a cost-share application prior to completion of the aforementioned steps, a pre-application process will be followed.

- 2 RING DIKE PROGRAM.** This program is intended to protect individual rural homes and farmsteads through ring dike programs established by water resource districts. All ring dikes within the program are subject to the Commission's Individual Rural and Farmstead Ring Dike Criteria provided in Attachment A. Cost-share is limited to \$40,000 per ring dike. Protection of a city, community or development area does not fall under this program, but may be eligible for the flood control program. The State Water Commission may provide up to 60 percent cost-share of eligible items for ring dikes.

Landowners enrolled in the Natural Resource Conservation Service's (NRCS) Environmental Quality Incentive Program (EQIP) who intend to construct rural or farmstead ring dikes that meet the State Water Commission's elevation design criteria are eligible for a cost-share reimbursement of 20 percent of the NRCS construction payment, limited to a combined NRCS and State Water Commission contribution of 80 percent of project costs.

- E. RECREATION.** The State Water Commission may provide cost-share up to 40 percent for projects intended to provide water-based recreation. Typical projects provide or complement water-based recreation associated with dams.
- F. IRRIGATION.** The State Water Commission may provide cost-share for up to 50 percent of the eligible items for irrigation projects. The items eligible for cost-share are those associated with new central supply works, including water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, and electrical transmission and control facilities.
- G. BANK STABILIZATION.** The State Water Commission may provide cost-share up to 50 percent of eligible items for bank stabilization projects on public lands or those lands under easement by federal, state, or political subdivisions. Bank stabilization projects are intended to stabilize the banks of lakes or watercourses, as defined in N.D.C.C § 61-01-06, with the purpose of protecting public facilities. Drop structures and outlets are not considered for funding as bank stabilization projects, but may be eligible under other cost-share program categories. Bank stabilization projects typically consist of a rock or vegetative design and are intended to prevent damage to public facilities including utilities, roads, or buildings adjacent to a lake or watercourse.

ATTACHMENT A
INDIVIDUAL RURAL AND FARMSTEAD RING DIKE CRITERIA

MINIMUM DESIGN CRITERIA

- **HEIGHT:** The dike must be built to an elevation 2 ft above either the 100-year flood or the documented high water mark of a flood event of greater magnitude, whichever is greater.
- **TOP WIDTH:** If dike height is 5 ft or less: 4 ft top width
If dike height is between 5 ft and 14 ft: 6 ft top width
If dike height is greater than 14 ft: 8 ft top width
- **SIDE SLOPES:** 3 horizontal to 1 vertical
- **STRIP TOPSOIL AND VEGETATION:** 1 ft
- **ADEQUATE EMBANKMENT COMPACTION:** Fill in 6-8 inch layers, compact with passes of equipment
- **SPREAD TOPSOIL AND SEED ON RING DIKE**

LANDOWNER RESPONSIBILITY

Landowners are responsible to address internal drainage on ring dikes. If culverts and flap gates are installed, these costs are eligible for cost-share. The landowner has the option of completing the work or hiring a contractor to complete the work.

If **contractor** does the work, payment is for actual costs with documented receipts.

If **landowner** does the work, payment is based on the following unit prices:

- **STRIPPING, SPREADING TOPSOIL, AND EMBANKMENT FILL:** Chief Engineer will determine rate schedule based on current local rates
- **SEEDING:** Cost of seed times 200%
- **CULVERTS:** Cost of culverts times 150%
- **FLAP GATES:** Cost of flap gates times 150%

OTHER FACTS AND CRITERIA

- The topsoil and embankment quantities will be estimated based on dike dimensions. Construction costs in excess of the 3:1 side slope standard will be the responsibility of the landowner. Invoices will be used for the cost of seed, culverts, and flap gates.

- Height can be determined by existing FIRM data or known elevations available at county floodplain management offices. Engineers or surveyors may also assist in establishing height elevations.
- The projects will not require extensive engineering design or extensive cross sections.
- A dike permit is required if the interior volume of the dike consists of 50 acre-feet, or more.